

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (Currently Amended) A process for desulfurization of a hydrocarbon-containing fraction process containing sulfur compounds, comprising conducting at least one treatment stage of said fraction with an oxidizing agent in the presence of a catalyst ~~of said oxidation~~, in which said catalyst is in bulk form and comprises an active phase consisting essentially of at least one metallic oxide of chemical formula  $M_xO_y$ , wherein M is an element that is selected from the group that consists of the elements of groups IV-B, V-B or VI-B of the periodic table.

Claim 2 (Previously Presented) A process for desulfurization according to claim 1, in which said hydrocarbon-containing fraction is a petroleum fraction whose boiling points are between 150 and 500°C.

Claim 3 (Previously Presented) A process for desulfurization according to claim 1, in which said hydrocarbon-containing fraction comprises a fraction by weight of sulfur-containing compounds of between 5 ppm and 5%.

Claim 4 (Previously Presented) A process for desulfurization according to claim 1, in which the temperature of said oxidation reaction is between 40°C and 300°C.

Claim 5 (Currently Amended) A process for desulfurization according to claim 1, in which the temperature of said oxidation reaction is greater than or equal to 100°C, said process being conducted without the consumption of hydrogen.

Claim 6 (Previously Presented) A process for desulfurization according to claim 1, in which the pressure of said oxidation reaction is between 0.1 and 5 MPa.

Claim 7 (Previously Presented) A process for desulfurization according to claim 1, in which element M is selected from the group that consists of vanadium, chromium, zirconium, molybdenum, tungsten, and titanium, and combination thereof.

Claim 8 (Previously Presented) A process for desulfurization according to claim 1, in which the active phase of said catalyst consists essentially of MoO<sub>3</sub>, V<sub>2</sub>O<sub>5</sub> or ZrO<sub>2</sub> or mixtures thereof.

Claim 9 (Previously Presented) A process for desulfurization according to claim 1, in which said catalyst is used in the form of powder, balls or extrudates.

Claim 10 (Previously Presented) A process for desulfurization according to claim 1, in which said oxidizing agent is selected from the group that consists of peroxides, hydroperoxides, organic peracids, ozone, oxygen, nitrogen oxides and metallic oxidizing agents, by themselves or in a combination.

Claim 11 (Currently Amended) A process for desulfurization of a hydrocarbon fraction containing sulfur-containing hydrocarbon-containing fraction that comprises sulfur-containing compounds comprising conducting at least the following stages:

- a) an oxidation of at least a portion of the sulfur-containing compounds contained in said hydrocarbon-containing fraction in the presence of at least one oxidizing agent and a catalyst according to claim 1,
- b) a separation of the oxidized sulfur-containing compounds of the products obtained from stage a) by extraction, distillation or adsorption, said process being conducted without the consumption of hydrogen.

Claim 12 (Previously Presented) A process for desulfurization according to claim 11, in which stage b) comprises an adsorption step carried out in at least one adsorbent column, wherein said adsorbent is selected from the group consisting of amorphous oxides, amorphous aluminas, amorphous silicas amorphous silica-aluminas, crystallized oxides, zeolites, clays or a mixture of at least two of the adsorbents of said group.

Claim 13 (Previously Presented) A process for desulfurization according to claim 11 also comprising a separation stage of said catalyst between oxidation stage a) and separation stage b).

Claim 14 (Previously Presented) A process according to claim 1, wherein the hydrocarbon fraction is kerosene or gas oil.

Claim 15 (Previously Presented) A process for desulfurization according to claim 10, in which the active phase of said catalyst consists essentially of MoO<sub>3</sub>, V<sub>2</sub>O<sub>5</sub> or ZrO<sub>2</sub> or mixtures thereof.

Claim 16 (Previously Presented) A process according to claim 15, wherein the oxidizing agent is hydrogen peroxide tertiary butyl hydroperoxide, or cumene.

Claim 17 (Currently Amended) A process for desulfurization according to claim 2 claim 1, in which the temperature of said oxidation reaction is greater than or equal to 100°C and up to 200°C.

Claim 18 (Previously Presented) A process for desulfurization according to claim 8, in which the temperature of said oxidation reaction is greater than or equal to 100°C.

Claim 19 (Currently Amended) A process for desulfurization according to claim 16, in which the temperature of said oxidation reaction is greater than or equal to 100°C and up to 200°C.

Claim 20 (Currently Amended) A process for desulfurization according to claim 11, in which the temperature of said oxidation reaction is greater than or equal to 100°C and up to 200°C.

Claim 21 (Currently Amended) A process according to ~~claim 1~~ claim 31, wherein the bulk form is in the form of balls, extrudates or powder the oxidation is conducted in a single oxidation stage.

Claim 22 (Currently Amended) A process according to claim 19, wherein the bulk form is in the form of balls, extrudates or powder, and the oxidation is conducted in a single oxidation stage.

Claim 23 (Previously Presented) A process according to claim 20, wherein the bulk form is in the form of balls, extrudates or powder.

Claim 24 (Previously Presented) A process according to claim 11, wherein the bulk form is powder and the process comprises an intermediate step of removing the powder prior to the adsorption step.

Claim 25 (Previously Presented) A process according to claim 11, wherein water forms during the oxidation step and wherein the process further comprises a step of removing the water before the adsorption step.

Claim 26 (New) A process according to claim 1, wherein said bulk form consists essentially at least 70% by weight of said at least one metallic oxide.

Claim 27 (New) A process according to claim 1, wherein said bulk form consists essentially at least 90% by weight of said at least one metallic oxide.

Claim 28 (New) A process according to claim 1, wherein said bulk form consists essentially at least 98% by weight of said at least one metallic oxide.

Claim 29 (New) A process according to claim 1, wherein the sulfur compounds comprise at least one of benzothiophene and dibenzothiophene which are oxidized to the corresponding sulfones and sulfoxides.

Claim 30 (New) A process according to claim 11, wherein the sulfur compounds comprise at least one of benzothiophene and dibenzothiophene which are oxidized to the corresponding sulfones and sulfoxides.

Claim 31 (New) A process according to claim 29, wherein the catalyst is bulk molybdenum oxide.